2002 HIGHER SCHOOL CERTIFICATE EXAMINATION

Physics

Section I – Part B (continued)

Marks

Question 24 (8 marks)

In terms of band structures and relative electrical resistance, describe the differences between a conductor, an insulator and a semiconductor. **8**

A conductor conducts electricity. It lets electricity flow through it. There are different types and different resistances of conductors. Some let the electricity through more easily than others.
Insulators do not let through electricity. They stop it. Electricity cannot pass through an insulator. Examples of these are: Metals are conductors. Wood and rubber are insulators.
Semiconductors allow the flow of electricity also with some resistance. The resistance is variable and can be changed to suit till it can be a insulator or a conductor.